



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029**

JoAnn Truchan, MPM, PE  
Allegheny County Health Department  
Air Quality Program  
301 39<sup>th</sup> Street, Building #7  
Pittsburgh, PA 15201

Dear Ms. Truchan,

The Environmental Protection Agency (EPA) offers the following comments on the proposed Prevention of Significant Deterioration (PSD) and Non-Attainment New Source Review (NSR) Permit for Allegheny Energy Center LLC – Invenergy LLC. This permit will authorize the construction and operation of a 639 megawatt natural gas-fired combined cycle power plant. The facility triggers NSR requirements for NO<sub>x</sub> and VOC (as ozone and PM 2.5 precursors) and PSD requirements for NO<sub>x</sub>, CO, PM, PM<sub>10</sub>, sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>), and greenhouse gases (CO<sub>2</sub>e).

These comments are provided to ensure that the project meets federal Clean Air Act requirements, that the permit will provide necessary information so that the basis for the permit decisions is transparent and readily accessible to the public, and that the permit record provides adequate support for the decisions. Comments have been included that would apply for a title V permit as well.

**I. PERMIT/ENGINEERING ANALYSIS COMMENTS:**

A. Combustion Turbine (CT01) Startup Shutdown

1. Condition V.A.1.n and V.A.1.p exempt various emissions limits during period of startup and shutdown of CT01. However, page 3-2 of the application indicates that while NO<sub>x</sub>, VOC, and CO emissions vary during startup and shutdown, other NSR pollutant emissions do not. Please remove the exemptions for these other pollutants and establish limitations for NO<sub>x</sub>, VOC, and CO during periods of startup and shutdown (see also Comment 2).
2. To calculate potential emissions and establish emissions limits for CT01, 365 startup and shutdown events were assumed. For these limits to be practically enforceable there must be associated operational or production limits. **Ex. 5 Deliberative Process (DP)**

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**Ex. 5 Deliberative Process (DP)** Note that on Page 3-4 of the application, the facility requested the following limit: "Total startup and shutdown events not to exceed 365 events per rolling 12-month period". Lb/event LAER and BACT limits for cold start, warm start, hot start, and shutdown events were also proposed for NO<sub>x</sub> (5-24), CO (5-30), and VOC (5-38). However, these requirements do not appear in the permit as limits.

Commented [A1]: Citation needed

- a. Please establish in the permit operational limits on the number of startup and shutdown events, lb/event limits, and any other parameters assumed in establishing emissions limits such as event duration.
- b. As lb/event limits represent LAER and BACT, please ensure analysis includes comparison of emissions limits to those achieved by similar operations<sup>2</sup>.

B. BACT and LAER determinations

3. BACT and LAER are emissions limits established by a permit authority. Appendix B to the review memo indicates controls the facility proposed in order to meet BACT and LAER limits; however, it is not clear what ACHD has determined as the BACT and LAER emissions limits. We suggest clarifying ACHD's determinations in the review memo.

C. 40 CFR Part 60, Subpart KKKK

4. Pursuant to 40 CR §60.4330(a)(1) and (2) and as indicated on page 4-9 of the facility application, CT01 is subject to SO<sub>2</sub> limits of 0.90 lb/MWh gross output and 0.060 lb/MMBtu heat input. However, condition V.A.1.g. of the permit only includes a 5.6 lb/hr and .0014 lb/MMBtu heat input limit. Please:
  - a. Incorporate the 0.90 lb/MWh gross output limit and cite to both §60.4330(a)(1) and (2)
  - b. Indicate in the review memo that the KKKK 0.060 lb/MMBtu limit is streamlined out by a more stringent limit, but still is an applicable requirement

D. Testing

<sup>1</sup> See June 13, 1989 John S. Seitz Memo: Guidance on Limiting Potential to Emit in New Source Permitting

<sup>2</sup> See October 1990 New Source Review Workshop Manual for further guidance on establishing BACT and LAER

[ PAGE \\* MERGEFORMAT ]

5. Condition V.A.2.d. requires regular PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, NH<sub>3</sub>, VOC, formaldehyde, and sulfuric acid mist emissions testing on the combustion turbine and HRSG stack as required by Article XXI §2108.02.b to demonstrate compliance with conditions [ REF \_Ref20395864 \w \h ] through [ REF \_Ref20830232 \w \h ].
  - a. Please specify the testing frequency required in the permit condition
  - b. This condition does not require testing to demonstrate compliance with the lb/hr emissions limits in Table V-A-1. Please incorporate regular testing requirements for these emissions limits as well.
6. Condition IV.14.a. establishes a site-wide requirement to perform initial emissions testing specified by the Department pursuant to Article XXI §2108.02. Please include in the permit the initial emissions testing that the Department will require

E. Assuring Compliance with CT VOC limits

7. It is unclear how compliance with CT01 VOC limits is assured. Both CO and NO<sub>x</sub> have continuous emissions monitoring devices, however there is no monitoring device for VOC. On page 5-37 of the application, the facility suggests a correlation factor between CO and VOC emissions during an initial performance test by simultaneously operating CO CEMS while stack testing following U.S. EPA Reference Method 18, 25A. However, no monitoring recordkeeping or reporting requirements exist in the permit to establish this correlation. Please incorporate.

II. AIR QUALITY ANALYSIS REPORT

- A. EPA comments on the modeling analysis are included in Enclosure 1.

Thank you for the opportunity to review this proposed permit. If you have any questions or concerns regarding these comments, please contact me or Riley Burger of my staff at 215-814-2217.

Sincerely,

Mary Cate Opila, P.E., Ph.D.  
Chief, Permits Branch  
Air & Radiation Division  
EPA Region 3